

Work Order ID 54542



Page 1

December 11, 2009 11:11:48 AM

Item ID: D212-664-207

Accept



Setup Start



Revision ID:

Item Name: Crosstube Low Standard Aft

Stop



Start Date: 12/11/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 12/28/2009 Req'd Qty: 1.00



Customer:

Reference: Return 2009 / RA109101

Approvals:

Process Plan:

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: 05/12/11

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D212-664-247	Rev B

100 QC5- Inspect part completeness to step on W/O 0.00



QC

Quality Control

Memo

0.00

Original B50801 @ CHG001. Ref NCR09-089.

1 hole in the cuff was slightly mis-aligned. Determined from investigation was a tolerance stack up.

Re-work to be done per Eng. Disposition (e-mail)

12/11/11

AMK

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Customer:

Reference: Return 2009 / RA109101

Approved

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



116 ID

Operation Description

Set Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Crosstubes

Crosstubes

Memo

0.00

See attached e-mail by David S
I-Dis-assemble the affected cuff

10/01/04

2-Clean & alodine as necessary per QSI005

10/01/04

3-Pick new D3660-1 cuff to install onto the tube

4-Install the affected cuff per dwg, and CAREFULLY drill open the through
bolt holes to 0.391" per attached e-mail. Sikaflex -241 / -291 A/R M
Exp: 10/02/30

102395 → 10/01/04

5-Drill the opposite side to 0.391" as well **do not remove the cuff**

6- Deburr & touch up with alodine per QSI005.

10-1-4

DART

Dart Aerospace Ltd.

1270 ABERDEEN ST.
HAWKESBURY, ON, CANADA K6A 1K7

TC APPROVAL # 09-89

TEL: 1-613-632-5200

P N	D212-664-207	CHG	CHG001
DESC	Crosstube Low Aft	STC	SH01-9
LOT	B50801	STC	SR01298NY
MODEL	Bell 204/205/210/212/UH-1	STC	

MADE IN CANADA

D2729-1

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Cust Item ID:

Required Date: 12/28/2009 Req'd Qty: 1.00



Customer:

Reference: Return 2009 / RA109101

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop


**Sequence ID/
Work Center ID**
**Operation
Description**
Set Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120



QC5- Inspect part completeness to step on W/O

0.00

QC

Quality Control

Memo

0.00

Inspect with bolts & T-pins.

Perform a Trial install with a set of landing gear per attached e-mail.

Record findings / Results:

GP
10.10.04

DIMS OK TO EMAIL, BOLT/PINS FIT OK.
INSTALLED INTO SADDLE ASSEMBLY OK.

130



Spray Painting per QSI005 4.2

0.00

SprayPaint

Memo

0.00

Spray Painting

Re-paint the tube as necessary Imron white per QSI 005

MJ 10 03 02 ①

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Cust Item ID:

Required Date: 12/28/2009 Req'd Qty: 1.00



Customer:

Reference: Return 2009 / RA109101

Approvals: Process Plan: _____ Date: _____

Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140



QC

QC14- Inspect Spray Paint

0.00

2T 10-03 03

Quality Control

140.1 → install clamps + Rubber casting ready → ml 10.03.03 ①

150



Packaging

Pick Kit

0.00

10-3-8 SLR

Packaging

Memo

0.00

New kit & paperwork required with the new batch # @ CHG001

for CL 10/03/03

S
16/03/09

160



QC

QC4- 100% Inspect kits for completeness

0.00

Quality Control

Memo

0.00

S 10/03/03

(40) _____

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Cust Item ID:

Required Date: 12/28/2009 Req'd Qty: 1.00



Customer:

Reference: Return 2009 / RA109101

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

**Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Draw
Number****Draw
Rev.****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

170



Identify as per dwg & Stock Location:

MVA

0.00

Packaging

Memo

0.00

Packaging

180



QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

Picklist Print

Page 1

December 11, 2009 11:11:47 AM

Work Order ID: 54542**Parent Item:** D212-664-207**Parent Item Name:** Crosstube Low Standard Aft**Start Date:** 12/11/2009**Required Date:** 12/28/2009**Comments:** IPP RevE: as per ECN09-696 09.11.20 DD verified by:EC**Start Qty:** 1.00**Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3660-1		Manufactured	No			140	Each	19.0000	1.0000			

CUFF

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
Main Warehouse		

ST	9	
51394	9	
Main Warehouse		
ST477	10	
53501	10	

CR3212-4-06



Purchased

No

220 Each 1,706.000 22.0000

CHERRY RIVET

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
------------------	----------------	-----------------

Main Warehouse

ST	1706	
107534	6	
112492	200	
112612	500	
112724	200	
112794	800	

ML 10/01/04

Jason Murdoch

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: December 11, 2009 9:01 AM
To: Jason Murdoch
Subject: FW: NCR D212-664-207

From: David Shepherd [mailto:dshepherd@dartaero.com]
Sent: December 3, 2009 1:11 PM
To: 'Chris Provencal'
Subject: RE: NCR D212-664-207

Chris,

As discussed, I'm not a big fan of elongating the holes. Would suggest opening up all saddle holes to 0.391 and trying to re-install the crosstube into a landing gear assembly. For the side with the cuff already installed, don't bother removing the cuff. Just line drill to 0.391.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Thursday, December 03, 2009 9:00 AM
To: 'David Shepherd'
Subject: NCR D212-664-207

David,

Qty(1) D212-664-207. The crosstube was returned because the one saddle hole (top-most), would not allow passage of the bolt. The hole in the cuff / tube was misaligned (this is a riveted-on cuff design). They changed the cuff with no improvement, so the problem is the hole in the tube. The solution would be to file the inner hole until a bolt can pass through, similar to what is sometimes done on tri-beam holes.

The misalignment seems to be more side-to-side, so it's likely the bolt would still bear on both the inner/outer cuff. Additionally, the analysis was done to show that the rivets can bear the entire load, so the outer cuff is able to bear the load regardless. The ICA specifies limits on hole elongation, although in this case the outer hole would remain unchanged, so their inspections should not be affected.

-Chris

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.5.426 / Virus Database: 270.14.91/2542 - Release Date: 12/03/09 07:32:00

5.2 STANDARD GEAR CROSSTUBES

Item	-107	-207	-209	Part Number	Description
	X			D212-664-107	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
		X		D212-664-207	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
			X	D412-664-209	CROSSTUBE INSTALLATION, 412 STANDARD AFT
6	1			D212-664-147	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
7		1		D212-664-247	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
8			1	D412-664-249	CROSSTUBE ASSEMBLY, 412 STANDARD AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
45	2			* D3659-1	CUFF
46		2	2	* D3660-1	CUFF
47	44	44		* CR3212-4-06	RIVET (M7885/3-4-06)
48			44	* CR3212-4-07	RIVET (M7885/3-4-07)
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/-247 OR D412-664-249 ASSEMBLIES ABOVE
 NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA
 SKIDTUBES.

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Revision: F
 Date: 08.09.05

REJECTED

Date: 3/11/69

Part No.: D12-664-107

Part Name: AST CLOSS SWOK 10

Serial No. 55386

Time Since O/H:

Time Since O/H:

Inspected by:

Ave.

Remarks: RH TUBE INSPECTED

REASSEMBLED
CALIBRATED

Overs:

727 B WOODS

Lakeside, AZ 85330

(928) 368-6965